

Claims:*Surry B.M.**Add B24 Add C17*

A currency evaluation device for receiving a stack of currency bills and rapidly evaluating all the bills in the stack, said device comprising:
2 an input receptacle for receiving a stack of bills to be evaluated;
4 a single output receptacle for receiving said bills after said bills have been evaluated;
6 a transport mechanism for transporting said bills, one at a time, from said input receptacle to said output receptacle along a transport path;
8 a discriminating unit for evaluating said bills, said discriminating unit comprising two detectors positioned along said transport path between said input receptacle and said output receptacle, said detectors being disposed on opposite sides of said transport path so as to be disposed adjacent to first and second opposing surfaces of said bills, said 10 discriminating unit counting and determining the denomination of said bills; and
12 means for flagging a bill when the denomination of said bill is not determined by
14 said discriminating unit.

2. The currency evaluation device of claim 1 wherein said means for
2 flagging causes said transport mechanism to halt with said bill whose denomination has
not been determined being the last bill transported to said output receptacle.

3. The currency evaluation device of claim 2 wherein each of said detectors
2 includes a stationary optical scanning head for scanning at least a preselected segment of
each bill transported between said input and output receptacles by said transport
4 mechanism, and producing an output signal representing the scanned image and wherein
said discriminating unit includes signal processing means for receiving said output signal
6 and determining the denomination of each scanned bill.

4. The currency evaluation device of claim 2 wherein said transport
2 mechanism transports bills at a rate of at least about 800 bills per minute.

5. The currency evaluation device of claim 2 wherein said bill whose
2 denomination has not been determined is removed from the device before said transport
mechanism is restarted.

6. The currency evaluation device of claim 1 wherein each of said detectors
2 includes a stationary optical scanning head for scanning at least a preselected segment of
4 each bill transported between said input and output receptacles by said transport
6 mechanism, and producing an output signal representing the scanned image and wherein
said discriminating unit includes signal processing means for receiving said output signal
and determining the denomination of each scanned bill.

7. The currency evaluation device of claim 1 wherein said transport
2 mechanism transports bills at a rate of at least about 800 bills per minute.

8. The currency evaluation device of claim 1 wherein said transport
2 mechanism transports bills at a rate of at least about 1000 bills per minute.

9. The currency evaluation device of claim 1 wherein said means for
2 flagging causes said transport mechanism to halt.

10. The currency evaluation device of claim 9 wherein said transport
2 mechanism transports bills at a rate of at least about 800 bills per minute.

11. The currency evaluation device of claim 9 wherein said transport
2 mechanism transports bills at a rate of at least about 1000 bills per minute.

12. A currency evaluation device for receiving a stack of currency bills and
2 rapidly evaluating all the bills in the stack, said device comprising:
an input receptacle for receiving a stack of bills to be evaluated;

4 at least one output receptacle for receiving said bills after said bills have been
evaluated:

6 a transport mechanism for transporting said bills, one at a time, from said input
receptacle to said output receptacle along a transport path:

8 a discriminating unit for evaluating said bills, said discriminating unit comprising
two detectors positioned along said transport path between said input receptacle and said
10 output receptacle, said detectors being disposed on opposite sides of said transport path
so as to be disposed adjacent to first and second opposing surfaces of said bills, said
12 discriminating unit counting and determining the denomination of said bills; and
means for flagging a bill when the denomination of said bill is not determined by
14 said discriminating unit, wherein said means for flagging causes said transport
mechanism to halt.

13. The currency evaluation device of claim 12 wherein said means for
2 flagging causes said transport mechanism to halt with said bill whose denomination has
not been determined being the last bill transported to said output receptacle.

14. The currency evaluation device of claim 13 wherein said transport
2 mechanism transports bills at a rate of at least about 800 bills per minute.

15. The currency evaluation device of claim 13 wherein said bill whose
2 denomination has not been determined is removed from said output receptacle before
said transport mechanism is restarted.

16. The currency evaluation device of claim 12 wherein said transport
2 mechanism transports bills at a rate of at least about 800 bills per minute.

17. The currency evaluation device of claim 12 wherein said transport
2 mechanism transports bills at a rate of at least about 1000 bills per minute.

18. A currency evaluation device for receiving a stack of currency bills and
2 rapidly evaluating all the bills in the stack. said device comprising:

4 an input receptacle for receiving a stack of bills to be evaluated;

6 a single output receptacle for receiving said bills after said bills have been
8 evaluated;

10 a transport mechanism for transporting said bills, one at a time, from said input
12 receptacle to said output receptacle along a transport path;

14 a discriminating unit for evaluating said bills, said discriminating unit comprising
16 two detectors positioned along said transport path between said input receptacle and said
18 output receptacle, said detectors being disposed on opposite sides of said transport path
20 so as to be disposed adjacent to first and second opposing surfaces of said bills, said
22 discriminating unit counting and determining the denomination of said bills; and
24 means for flagging a bill meeting or failing to meet a certain criteria.

19. The currency evaluation device of claim 18 wherein said means for
2 flagging a bill causes said transport mechanism to halt with said bill meeting or failing to
4 meet said certain criteria being positioned at an identifiable location in said output
6 receptacle.

20. The currency evaluation device of claim 19 wherein said certain criteria is
2 said discriminating unit determining the denomination of said bill and wherein said
4 means for flagging causes said transport mechanism to halt when said bill fails to meet
6 said criteria of having its denomination determined by said discriminating unit.

21. The currency evaluation device of claim 19 further comprising an
2 authenticating unit, said authenticating unit performing one or more authenticating tests
4 on said bills and wherein said certain criteria is a bill failing one or more of said one or
6 more authenticating tests and wherein said means for flagging causes said transport
mechanism to halt when said bill fails one or more of said one or more authenticating
tests.

22. The currency evaluation device of claim 18 further comprising an
2 authenticating unit, said authenticating unit performing one or more authenticating tests
4 on said bills and wherein said certain criteria is a bill failing one or more of said one or
more authenticating tests and wherein said means for flagging causes said transport
6 mechanism to halt when said bill fails one or more of said one or more authenticating
tests.

23. A currency evaluation device for receiving a stack of currency bills and
2 rapidly evaluating all the bills in the stack, said device comprising:
4 an input receptacle for receiving a stack of bills to be evaluated;
6 a single output receptacle for receiving said bills after said bills have been
evaluated;
8 a transport mechanism for transporting said bills, one at a time, from said input
receptacle to said output receptacle along a transport path;
10 a discriminating unit for evaluating said bills, said discriminating unit comprising
two detectors positioned along said transport path between said input receptacle and said
12 output receptacle, said detectors being disposed on opposite sides of said transport path
so as to be disposed adjacent to first and second opposing surfaces of said bills, said
discriminating unit counting and determining the denomination of said bills; and
means for halting said transport mechanism when said discriminating unit detects
14 a bill meeting or failing to meet a certain criteria.

24. The currency evaluation device of claim 23 wherein said certain criteria is
2 said discriminating unit determining the denomination of said bill and wherein said
means for halting causes said transport mechanism to halt when said bill fails to meet
4 said criteria of having its denomination determined by said discriminating unit.

25. The currency evaluation device of claim 23 further comprising an
2 authenticating unit, said authenticating unit performing one or more authenticating tests
on said bills and wherein said certain criteria is a bill failing one or more of said one or

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4 more authenticating tests and wherein said means for flagging causes said transport
mechanism to halt when said bill fails one or more of said one or more authenticating
6 tests.

26. A document evaluation device for receiving a stack of documents and
2 rapidly evaluating all the documents in the stack, said device comprising:

4 an input receptacle for receiving a stack of documents to be evaluated, genuine
4 ones of said documents each having one of a plurality of images thereon, said plurality of
images defining a plurality of document types;

6 a single output receptacle for receiving said documents after said documents have
been evaluated;

8 a transport mechanism for transporting said documents, one at a time, from said
input receptacle to said output receptacle along a transport path;

10 a discriminating unit for evaluating said documents, said discriminating unit
comprising two detectors positioned along said transport path between said input
12 receptacle and said output receptacle, said detectors being disposed on opposite sides of
said transport path so as to be disposed adjacent to first and second opposing surfaces of
14 said documents, said discriminating unit being capable of distinguishing among said
plurality of document types by scanning the image on each of said documents, said
16 discriminating unit counting and determining the document type of said documents; and
means for flagging a document when the type of said document is not determined
18 by said discriminating unit.

27. The document evaluation device of claim 26 wherein said means for
2 flagging causes said transport mechanism to halt with said document whose type has not
been determined being the last document transported to said output receptacle.

28. The document evaluation device of claim 27 wherein said transport
2 mechanism transports bills at a rate of at least about 800 bills per minute